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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,383	06/20/2001	Mark James Schaezner	SEA9620.01/30874.112USU1	3979

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EXAMINER

RODRIGUEZ, GLENDA P

ART UNIT

PAPER NUMBER

2697

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,383

Applicant(s)

SCHAENZER ET AL.

Examiner

Glenda P. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 11, 15, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 - 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Takashi et al. (U.S. Pat. No. 6, 519, 715).

Regarding Claim 1, Takashi et al. teach a method of detecting a disc defect comprising the steps of:

Writing a first data track to the disc with a write head including a write element and a thermal asperity detector (Fig. 1 and Col. 5, Lines 33-35 (writing element) and Col. 5, Lines 49-51.);

Detecting magnetic defects on the data track with a certification head (Col. 5, Lines 49-51. Thermal asperity detector is used to detect thermal asperities or defects.);

Scanning the first data track for thermal asperities with the thermal asperity detector (Col. 6, Lines 55-59. In

order to find if the sector has any thermal asperity, it must first be scanned.).

Regarding Claim 2, Takashi et al. disclose all the limitations of Claim 1. Takashi et al. uses a disk and it is inherent that a disk has a plurality of tracks, therefore permitting the thermal asperity detector can detect for a plurality of tracks formed within a disk.

Regarding Claim 3, Takashi et al. disclose all the limitations of Claim 1. Takashi et al. include the step of upon locating a thermal asperity during the step of scanning, writing a burst pattern to the disc in a location where a thermal asperity is detected wherein the burst pattern is detectable in further analysis of the disc (Pat. No. 6, 519, 715; Col. 15, Lines 8 – 20, Lines 39 – 64. Takashi et al. teach writing a bit for designating the track that contains the thermal asperity).

Regarding Claim 4, Takashi et al. teach a method of detecting magnetic and thermal asperities on a disc comprising the steps of:

Writing a first data stream to a first wide track on the disc with a write head located on a write head (Fig. 1 and Col. 5, Lines 33-35 (Takashi et al. teach a writing element in its invention));

Reading the first data stream on a first portion of the first wide track for magnetic defects with a read element located on a certifier head (Col. 6, Lines 42-59. Takashi et al. teach a reading element and a thermal detector that is able to detect thermal defects.);

Scanning the first wide track for thermal asperities with a thermal asperity detector located on the write head (Col. 6, Lines 55-59. Takashi et al. teach a magneto resistive element contains a read and write element and a thermal detector coupled to the magneto resistive element capable of detecting thermal asperities).

Regarding Claim 5, Takashi et al. disclose all the limitations of Claim 4. Takashi et al. uses a disk and it is inherent that a disk has a plurality of tracks, therefore permitting the thermal asperity detector can detect for a plurality of tracks.

Regarding Claim 6, Takashi et al. disclose all the limitations of Claim 4. Takashi et al. includes the step of upon locating a thermal asperity during the step of scanning, writing a burst pattern to the disc in a location where a thermal asperity is detected wherein the burst pattern is detectable in further analysis of the disc (Pat. No. 6, 519, 715; Col. 15, Lines 8 – 20, Lines 39 – 64. Takashi et al. teach writing a bit for designating the track that contains the thermal asperity).

Regarding Claim 7, Takashi et al. disclose all the limitations of Claim 4. It is inherent that when the medium is reading (or for example track seeking, which is another way of scanning or reading throughout a disk) no writing is being performed.

3. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by Li (U.S. Pat. No. 6, 421, 193). Li teach a testing system comprising:

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A disc drive having a spindle on which a disc can be mounted and motor for rotating the disc (Col. 3, Line 66 to Col. 4, Line 4);

Means for detecting thermal asperities and magnetic defects (Col. 2, Lines 51-65. Li teaches means for detecting and identifying thermal asperities.).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al. (U.S. Pat. 6, 519, 715). Takashi et al. teach a write head that is activated during a first period (((Pat. No. 6, 519, 715; Fig. 1 and Col. 5, Lines 33-35 (Takashi et al. teach a writing element). It is obvious that a writing operation takes place throughout a predetermined period.), a thermal detector (Col. 6, Lines 42-59. Takashi et al. teach a thermal detector that is able to detect thermal defects by performing reading operations. It is obvious that any type of operation takes a predetermined amount of time.) and a read head (Col. 6, Lines 42-59. Takashi et al. teach a reading element. It is obvious that the read

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element scans through written data.). Takashi et al. fail to disclose that the write head and read head are in separate support arms. It would have been obvious to a person of ordinary skill in the art, to know that the write and read head perform their operations in different period, therefore not necessarily needing to have both read and write elements in separate support arms. It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Takashi et al.'s invention, in order for the medium to have separate arms in order for the medium to perform the operation or reading or writing.

6. Claims 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Smith et al. (U.S. Pat. No. 6, 154, 335). Li disclose all the limitations of Claim 8. Li fail to teach wherein the thermal asperity detector has a width ranging from about 10 microns to 100 microns. However, this feature is well known in the art as disclosed by Smith et al., wherein it teach a width ranging in the thermal asperity detector (U.S. Pat. No. 6, 154, 335; Col. 9, Lines 55-57). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Li's invention in order for the medium to be able to have that certain width because it can better perceive the thermal asperities.
7. Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al. in view of Smith et al. (U.S. Pat. No. 6, 154, 335). Takashi et al. disclose all the limitations of Claim 14. Takashi et al. fail to teach wherein the thermal asperity detector has a width ranging from about 10 microns to 100

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microns. However, this feature is well known in the art as disclosed by Smith et al., wherein it teach a width ranging in the thermal asperity detector (U.S. Pat. No. 6, 154, 335; Col. 9, Lines 55-57). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Takashi et al.'s invention in order for the medium to be able to have that certain width because it can better perceive the thermal asperities.

8. Claim 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Gill (U.S. Pat. No. 5, 909, 344).

Regarding Claim 9, Li disclose all the limitations of Claim 8. Li fail to disclose that the thermal detector is composed of a magnetic material. However, this feature is known in the art as disclosed by Gill, wherein it discloses a magneto resistive head that contains nickel in its sensing element, which is a magnetic element (Pat. No. 5, 909, 344; Col. 1, Line 57 to Col. 2, Line 2). It would have been obvious to a person of ordinary skill in the art to modify Li's invention in order for the medium to be made of a magnetic element because the element is able to detect thermal defect or asperities.

Regarding Claim 10, Li teach all the limitations of Claim 8. Li fail to teach that the thermal detector is made of nickel. However, this feature is known in the art as disclosed by Gill, wherein it discloses a magneto resistive head that contains nickel in its sensing element (Pat. No. 5, 909, 344; Col. 1, Line 57 to Col. 2, Line 2). It would have been obvious to a person of ordinary skill in the art to modify

Li's invention in order for the medium to be made of nickel because the element is able to detect thermal defect or asperities.

9. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li and Takashi et al. as applied to Claim 8 and 14 above, and further in view of Gill (U.S. Pat. No. 5, 909, 344).

Regarding Claim 16, Takashi et al. disclose all the limitations of Claim 14. Takashi et al. fail to teach that the thermal detector is made of nickel. However, this feature is known in the art as disclosed by Gill, wherein it discloses a magneto resistive head that contains nickel iron in its sensing element (Pat. No. 5, 909, 344; Col. 1, Line 57 to Col. 2, Line 2). It would have been obvious to a person of ordinary skill in the art to modify Li's invention in order for the medium to be made of nickel because the element is able to detect thermal defect or asperities.

Regarding Claim 18, Takashi et al. disclose all the limitations of Claim 14. Takashi et al. fail to teach that the thermal detector is made of nickel. However, this feature is known in the art as disclosed by Gill, wherein it discloses a magneto resistive head that contains nickel in its sensing element (Pat. No. 5, 909, 344; Col. 1, Line 57 to Col. 2, Line 2). It would have been obvious to a person of ordinary skill in the art to modify Li's invention in order for the medium to be made of nickel because the element is able to detect thermal defect or asperities.

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10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takashi et al. as applied to Claim 14 above, and further in view of Spainger (U. S. Pat. No. 5, 122, 917). Takashi et al. disclose all the limitations of Claim 14. Takashi et al. fail to teach that the medium's write head has a width of 20 to 100 microns. However, this feature is well known in the art as disclosed by Spainger, wherein it discloses that the write head width has a width of 24 microns (Pat. No. 5, 122, 917; Col. 8, Line 20-21). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Takashi's invention in order for the medium to have a determined width in order for the medium to perform its job more effectively.

Allowable Subject Matter

11. Claims 11, 15, 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is 703-

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305-8411. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-6743 for regular communications and 703-308-6743 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9000.

gpr
May 19, 2003


Richemond Dorvil
Primary Examiner